



# SLOVENSKI STANDARD oSIST prEN 1995-1-2:2023

01-december-2023

Nadomešča:  
SIST EN 1995-1-2:2005

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## Evrokod 5: Projektiranje lesenih konstrukcij - 1-2. del: Projektiranje požarnovarnih konstrukcij

Eurocode 5 - Design of timber structures - Part 1-2: Structural fire design

Eurocode 5 - Bemessung und Konstruktion von Holzbauten - Teil 1-2:  
Tragwerksbemessung für den Brandfall

Eurocode 5 - Calcul des structures en bois - Part 1-2: Calcul du comportement au feu

**Ta slovenski standard je istoveten z: prEN 1995-1-2**

oSIST prEN 1995-1-2:2023

<https://standards.iteh.ai/catalog/standards/sist/b2fdd8f4-e57b-490b-8611-3937795c80f7/osist-pren-1995-1-2-2023>

### **ICS:**

13.220.50	Požarna odpornost gradbenih materialov in elementov	Fire-resistance of building materials and elements
91.010.30	Tehnični vidiki	Technical aspects
91.080.20	Lesene konstrukcije	Timber structures

**oSIST prEN 1995-1-2:2023**

**en,fr,de**



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NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 1995-1-2**

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## Eurocode 5 - Design of timber structures - Part 1-2: Structural fire design

Eurocode 5 - Calcul des structures en bois - Part 1-2:  
Calcul du comportement au feu

Eurocode 5 - Bemessung und Konstruktion von  
Holzbauten - Teil 1-2: Tragwerksbemessung für den  
Brandfall

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 250.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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**prEN 1995-1-2:2023 (E)****European foreword**

This document (prEN 1995-1-2:2023) has been prepared by Technical Committee CEN/TC 250 “Structural Eurocodes”, the secretariat of which is held by BSI. CEN/TC 250 is responsible for all Structural Eurocodes and has been assigned responsibility for structural and geotechnical design matters by CEN.

This document is currently submitted to the CEN Enquiry.

The first generation of EN Eurocodes was published between 2002 and 2007. This document forms part of the second generation of the Eurocodes, which have been prepared under Mandate M/515 issued to CEN by the European Commission and the European Free Trade Association.

The Eurocodes have been drafted to be used in conjunction with relevant execution, material, product and test standards, and to identify requirements for execution, materials, products and testing that are relied upon by the Eurocodes.

The Eurocodes recognise the responsibility of each Member State and have safeguarded their right to determine values related to regulatory safety matters at national level through the use of National Annexes.

The main changes compared to the previous edition are listed below:

- improvement of the charring model (Clause 5.4);
- introduction of tabulated design data (Clause 6);
- improvement of the Effective cross-section method (Clause 7.2);
- addition of design rules for cross-laminated timber (Clause 7.2.3);
- improvement of design rules for timber frame assemblies (Clause 7.2.4);
- addition of design rules for timber-concrete composite members (Clause 7.2.5);
- introduction of the Separating function method (Clause 7.2.3);
- improvement of design rules for connections (Clause 9);
- improvement of rules for detailing (Clause 10);
- addition of normative and informative annexes.

## 0 Introduction

### 0.1 Introduction to the Eurocodes

The Structural Eurocodes comprise the following standards generally consisting of a number of Parts:

- EN 1990 Eurocode: Basis of structural and geotechnical design
- EN 1991 Eurocode 1: Actions on structures
- EN 1992 Eurocode 2: Design of concrete structures
- EN 1993 Eurocode 3: Design of steel structures
- EN 1994 Eurocode 4: Design of composite steel and concrete structures
- EN 1995 Eurocode 5: Design of timber structures
- EN 1996 Eurocode 6: Design of masonry structures
- EN 1997 Eurocode 7: Geotechnical design
- EN 1998 Eurocode 8: Design of structures for earthquake resistance
- EN 1999 Eurocode 9: Design of aluminium structures
- New parts are under development, e.g. Eurocode for design of structural glass.

The Eurocodes are intended for use by designers, clients, manufacturers, constructors, relevant authorities (in exercising their duties in accordance with national or international regulations), educators, software developers, and committees drafting standards for related product, testing and execution standards.

**NOTE** Some aspects of design are most appropriately specified by relevant authorities or, where not specified, can be agreed on a project-specific basis between relevant parties such as designers and clients. The Eurocodes identify such aspects making explicit reference to relevant authorities and relevant parties.

### 0.2 Introduction to EN 1995 (all parts)

(1) EN 1995 (all parts) applies to the design of buildings and civil engineering works in timber (solid timber, sawn, planed or in pole form, structural finger jointed timber, glued solid timber, glued laminated timber, cross laminated timber and structural laminated veneer lumber), wood-based panels and softboards as sheeting of timber frame members jointed together with adhesives or mechanical fasteners. The design rules given in the standard are valid for softwoods and hardwoods of all species. Special limitations are given in relevant Clauses. It complies with the principles and requirements for the safety and serviceability of structures and the basis of their design and verification given in EN 1990 – Basis of structural and geotechnical design.

(2) EN 1995 (all parts) is only concerned with requirements for resistance, serviceability, durability and fire resistance of timber structures. Other requirements, e.g. concerning thermal or sound insulation, are not considered.

EN 1995 is intended to be used in conjunction with:

- EN 1990 “Basis of structural and geotechnical design”
- EN 1991 “Actions on structures”

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- ENs for construction products relevant to timber structures
- EN 1998 “Design of structures for earthquake resistance”, when timber structures are built in seismic regions

(3) EN 1995 is subdivided in various parts:

- EN 1995-1 Design of timber structures — Part 1: General rules and rules for buildings
- EN 1995-2 Design of timber structures — Part 2: Bridges
- EN 1995-3 Design of timber structures — Part 3: Execution

EN 1995-1 in itself does not exist as a physical document, but comprises the following 3 separate parts:

- EN 1995-1-1 Design of timber structures — Part 1-1 General rules and rules for buildings
- EN 1995-1-2 Design of timber structures — Part 1-2: Structural fire design
- CEN/TS 19103 Eurocode 5 — Design of Timber Structures — Structural design of timber-concrete composite structures — Common rules and rules for buildings

EN 1995-2 “Bridges” refers to the common rules in EN 1995-1-1 and supplements, modifies or supersedes them, where relevant.

EN 1995-3 “Execution” refers to the common rules in EN 1995-1-1 and supplements, modifies or supersedes them, where relevant.

**0.3 Introduction to EN 1995-1-2**

This document provides rules for the structural fire design of timber structures and civil engineering timber works.

**0.4 Verbal forms used in the Eurocodes**

The verb “shall” expresses a requirement strictly to be followed and from which no deviation is permitted in order to comply with the Eurocodes.

The verb “should” expresses a highly recommended choice or course of action. Subject to national regulation and/or any relevant contractual provisions, alternative approaches could be used/adopted where technically justified.

The verb “may” expresses a course of action permissible within the limits of the Eurocodes.

The verb “can” expresses possibility and capability; it is used for statements of fact and clarification of concepts.

**0.5 National Annex for EN 1995-1-2**

National choice is allowed in this document where explicitly stated within notes. National choice includes the selection of values for Nationally Determined Parameters (NDPs).

The national standard implementing EN 1995-1-2 can have a National Annex containing all national choices to be used for the design of buildings and civil engineering works to be constructed in the relevant country.

When no national choice is given, the default choice given in this document is to be used.

When no national choice is made and no default is given in this document, the choice can be specified by a relevant authority or, where not specified, agreed for a specific project by appropriate parties.

National choice is allowed in prEN 1995-1-2 through notes to the following clauses:

4.5(1)

6.1(3)

9.2.3(1)

National choice is allowed in prEN 1995-1-2 on the application of the following Informative annexes:

Annex A

Annex E

Annex F

Annex T

The National Annex can contain, directly or by reference, non-contradictory complementary information for ease of implementation, provided it does not alter any provisions of the Eurocodes.

**iTeh Standards**  
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**Document Preview**

[oSIST prEN 1995-1-2:2023](https://standards.iteh.ai/catalog/standards/sist/b2fdd8f4-c57b-490b-8611-3937795c80f7/osist-pren-1995-1-2-2023)

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**prEN 1995-1-2:2023 (E)****1 Scope****1.1 Scope of EN 1995-1-2**

(1) This document deals with the design of timber structures for the accidental situation of fire exposure and it is intended to be used in conjunction with prEN 1995-1-1 and prEN 1991-1-2.

This document only identifies differences from, or supplements to, normal temperature design.

(2) This document applies to timber structures required to fulfil a loadbearing function, separating function or both.

(3) This document gives principles and application rules for the design of structures for specified requirements in respect of the aforementioned functions and the levels of performance.

(4) This document applies to structures, or parts of structures, that are within the scope of prEN 1995-1-1 and are designed accordingly.

(5) The methods given in this document are applicable to all products covered by harmonized technical specifications made reference to in this document.

**1.2 Assumptions**

(1) In addition to the general assumptions of EN 1990, the following assumptions apply:

- the choice of the relevant design fire scenario is made by appropriate qualified and experienced personnel, or is given by the relevant national regulation;
- any fire protection measure taken into account in the design will be adequately maintained.

**2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE See the Bibliography for a list of other documents cited that are not normative references, including those referenced as recommendations (i.e. in 'should' clauses), permissions ('may' clauses), possibilities ('can' clauses), and in notes.

EN 300, *Oriented strand boards (OSB) — Definitions, classification and specifications*

EN 301, *Adhesives, phenolic and aminoplastic, for load-bearing timber structures — Classification and performance requirements*

EN 312, *Particleboards — Specifications*

EN 520, *Gypsum plasterboards — Definitions, requirements and test methods*

EN 622-2, *Fibreboards — Specifications — Part 2: Requirements for hardboards*

EN 622-3, *Fibreboards — Specifications — Part 3: Requirements for medium boards*

EN 622-4, *Fibreboards — Specifications — Part 4: Requirements for softboards*

EN 622-5, *Fibreboards — Specifications — Part 5: Requirements for dry process boards (MDF)*

EN 636, *Plywood — Specifications*

- EN 998-1, *Specification for mortar for masonry — Part 1: Rendering and plastering mortar*
- EN 1363-1, *Fire resistance tests — Part 1: General requirements*
- EN 1990:2023, *Eurocode — Basis of structural and geotechnical design*
- EN 1991 (all parts), *Eurocode 1 — Actions on structures*
- prEN 1991-1-2:2021, *Eurocode 1 — Actions on structures — Part 1-2: Actions on structures exposed to fire*
- FprEN 1992-1-2, *Eurocode 2 — Design of concrete structures — Part 1-2: Structural fire design*
- prEN 1993-1-2, *Eurocode 3 — Design of steel structures — Part 1-2: Structural fire design*
- prEN 1995-1-1:2023, *Eurocode 5 — Design of timber structures — Part 1-1: General rules and rules for buildings*
- ISO 5660-1, *Reaction-to-fire tests — Heat release, smoke production and mass loss rate — Part 1: Heat release rate (cone calorimeter method) and smoke production rate (dynamic measurement)*
- EN 13162, *Thermal insulation products for buildings — Factory made mineral wool (MW) products — Specification*
- EN 13171, *Thermal insulation products for buildings — Factory made wood fibre (WF) products. Specification*
- EN 13353, *Solid wood panels (SWP) — Requirements*
- EN 13914-2, *Design, preparation and application of external rendering and internal plastering — Part 2: Internal plastering*
- EN 13986, *Wood-based panels for use in construction — Characteristics, evaluation of conformity and marking*
- EN 14080, *Timber structures — Glued laminated timber and glued solid timber — Requirements*
- EN 14081-1, *Timber structures — Strength graded structural timber with rectangular cross section — Part 1: General requirements*
- EN 14279, *Laminated Veneer Lumber (LVL) — Definitions, classification and specifications*
- EN 14374, *Timber structures — Structural laminated veneer lumber — Requirements*
- EN 14915, *Solid wood panelling and cladding — Characteristics, requirements and marking*
- EN 15101-1, *Thermal insulation products for buildings — In-situ formed loose fill cellulose (LFCI) products — Part 1: Specification for the products before installation*
- EN 15283-2, *Gypsum boards with fibrous reinforcement — Definitions, requirements and test methods — Part 2: Gypsum fibre boards*
- EN 15425, *Adhesives — One component polyurethane (PUR) for load-bearing timber structures — Classification and performance requirements*

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EN 15497, *Structural finger jointed solid timber — Performance requirements and minimum production requirements*

EN 16351, *Timber structures — Cross laminated timber — Requirements*

**3 Terms, definitions and symbols****3.1 Terms and definitions**

(1) For the purposes of this document, the terms and definitions given in EN 1990, prEN 1991-1-2 and prEN 1995-1-1 and the following apply.

**3.1.1****assembly**

composition of elements

[SOURCE: prEN 1995-1-1]

**3.1.2****basic design charring rate**

charring rate of wood species of initially unprotected members or charring rate of initially unprotected panels exposed to fire from one side without considering effects of *gaps* (3.1.16), joints, etc.

**3.1.3****bond line integrity in fire**

ability of the bond line for face bonds to provide stickability between layers in the fire situation

**3.1.4****char-line**

border-line between char layer and the *residual cross-section* (3.1.25), assumed to be equal with the position of the 300 °C isotherm

**3.1.5****charring depth**

distance from the original surface of the timber member to the *char-line* (3.1.4)

**3.1.6****charring phase**

initially unprotected, protected, post-protected or consolidated phase within the European charring model, defined as a time period

**3.1.7****cladding****lining**

external or internal covering formed by panels

**3.1.8****coating**

surface treatment applied on timber member